

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1-3, 5, and 13 have been cancelled. Applicants reserve the right to file claims 1-3 in a divisional application.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 4 and 6-12 are now pending in this application.

Rejection under 35 U.S.C. § 102

Claims 4, 7-11, and 13 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,652,413 (hereafter "Nanbu et al."). This rejection is respectfully traversed.

Amended claim 4 recites a method of producing a toroidal disc for a traction drive device to which a power roller frictionally contacts during operation of the traction drive device, comprising preparing a circular steel body that has been subjected to a carbonitriding hardening/tempering process, the steel body having a concentric toroidal surface which is formed with a plurality of fine recesses each having a depth of smaller than 3 μm ; turning the circular steel body about a rotation axis thereof; pressing a ball member against the toroidal surface with a pressing force that is smaller than 2000N; and moving the ball member on a given angular range of the toroidal surface in a direction perpendicular to the rotation axis of the circular steel body while pressing the ball member against the toroidal surface with the given pressing force. Claims 7-11 depend from claim 4.

Nanbu et al. discloses a traction drive rotary assembly that includes an input disk 3 and an output disk 5 that have annular concave traction contact surfaces 3a, 5a. See Nanbu et

al. at col. 1, lines 25-34. Nanbu et al. discloses that at least one of the traction contact surfaces has a surface microstructure that includes grooves and alternating protrusions. See Nanbu et al. at col. 4, lines 16-18. Nanbu et al. further discloses that a workpiece can be subjected to a recessing process to form grooves and alternating projections. See Nanbu et al. at col. 8, lines 48-52.

However, as noted by the Office on page 3 of the Office Action, Nanbu et al. does not disclose the step of “pressing a ball member against the toroidal surface with a pressing force that is smaller than 2000N.” Therefore, Nanbu et al. fails to disclose all of the features recited by amended claim 4. Withdrawal of this rejection is respectfully requested.

Rejection under 35 U.S.C. § 103

Claims 5, 6, and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nanbu et al. This rejection is respectfully traversed.

The Office asserts that it would have been obvious to one of ordinary skill in the art to use the claimed values because discovering the optimum value of a result-effective variable involves only routine skill in the art. See Office Action at pages 3-4. However, a parameter must first be recognized as a result-effective variable before the determination of the optimal or workable ranges of the variable can be characterized as routine experimentation. See M.P.E.P. § 2144.05, part IIB, citing *In re Antonie*, 195 USPQ 6 (CCPA 1977) and *In re Boesch*, 205 USPQ 215 (CCPA 1980). Therefore, Applicants submit that the Office must show prior art evidence recognizing the pressing force of a ball member against a toroidal surface of a steel body as a result-effective variable in order to assert that the recited pressing force would have been obvious as the optimum value of a result-effective variable.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By 

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 672-5426
Facsimile: (202) 672-5399

Glenn Law
Attorney for Applicant
Registration No. 34,371